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09/526,117	03/15/2000	Christian Tschudin	DT-3360	9943

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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT

PAPER NUMBER

2666

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/526,117	<b>Applicant(s)</b> TSCHUDIN, CHRISTIAN	
	<b>Examiner</b> Robert C. Scheibel	<b>Art Unit</b> 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 10/20/04
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 16 and 18-34 is/are pending in the application.  
4a) Of the above claim(s) 27 and 31 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 16, 16/20, 1/22-26, 1/28-30 and 1/32-34 is/are allowed.
- 6) ☒ Claim(s) 18-19, 19/20, 18/22-26, 18/28-30, and 18/32-34 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see section I on page 11, filed 10/20/2004, with respect to the objections to the drawings have been fully considered and are persuasive. The objections to the drawings (Figures 1-3) have been withdrawn.
2. Applicant's arguments, see section II on page 11, filed 10/20/2004, with respect to objections to the specification have been fully considered and are persuasive. The objections to the specification have been withdrawn.
3. Applicant's arguments, see section IIIa on pages 11-12, filed 10/20/2004, with respect to the rejection of claims 11 and 12 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The rejection of claims 11 and 12 under 35 U.S.C. 112, second paragraph, has been withdrawn.
4. Applicant's arguments, see the first two paragraphs of section IIIb on page 12, filed 10/20/2004, with respect to claims 1 and 16 have been fully considered and are persuasive. The rejection of claims 1 and 16 has been withdrawn. In addition, the rejection of claims 1/22-26, 1/28-30, 1/32-34, and 16/20 has been withdrawn as being dependent upon allowable claims 1 and 16. Note that claims 27 and 31 are rejected under 35 U.S.C. 112, fifth paragraph, and are withdrawn from consideration as they are improper multiple dependent claims.
5. Applicant's arguments, see the section from the first paragraph of page 13 through the second paragraph of page 17, filed 10/20/2004, with respect to new claims 18 and 19 and the Banchs reference have been fully considered and are persuasive. Banchs will not be used in the rejection of claims 18 and 19 in this office action.

Art Unit: 2666

6. Applicant's arguments, see the section from the third paragraph of page 17 through the end of page 19, filed 10/20/2004, with respect to new claims 18 and 19 and the Olson reference have been fully considered but they are not persuasive.

Applicant states in the third paragraph of page 17 that Olson and the present application are in the same field; examiner agrees with this assertion. In the next paragraph, applicant indicates that the key difference between Olson and the present application is the explicit forwarding operation in the present invention. Examiner agrees that there are differences between Olson and the present application with regard to how the routing table is structured. However, new claims 18 and 19 do not sufficiently identify these differences. Olson still reads on the current broad terminology of new claims 18 and 19. The

In the following paragraph, applicant elaborates this argument by stating that the different algorithms of Olson are "path selection algorithms" and that there is "no wording towards selecting packet processing functions like modifying the packet's content...". Examiner disagrees that every the operation code (ALG field) of Olson instructs the processor to perform *only* forwarding actions. As explained in detail below, the algorithms forward packets, but also perform other actions such as dropping packets. Applicant also argues in this paragraph that route tables in Olson still serve the sole purpose of storing forwarding information, rather than storing instructions. While some or all of these arguments may distinguish the present invention from Olson, the current broad wording of claims 18 and 19 do not include the above-mentioned limitations. For example, claims 18 and 19 do not contain any mention of instructions in the routing table for modifying a packet's contents.

Art Unit: 2666

In the next two paragraphs, applicant discusses the requirement in Olson of “alternate routing control information” and indicates that the present invention does not have such a requirement. However, claims 18 and 19 do not contain any limitations which indicate that the present invention does not have this requirement.

Applicant cites case law indicating the requirements of 35 U.S.C. 102 in the next paragraph. Examiner believes that Olson anticipates the current broad language in claims 18 and 19 (although not necessarily all subject matter in the specification).

#### ***Claim Objections***

7. Claims 1 and 16 are objected to because of the following informalities: “rout” should be changed to “route” in line 19. Appropriate correction is required.

8. Claims **27 and 31** are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

#### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims **18/22 and 18/23** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim **18/22** recites the limitation "said at least one multi-set" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2666

Claim 18/23 recites the limitation "the multi-set" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 18-19, 19/20, 18/24-26, 18/28-30, and 18/32-34 are rejected under 35 U.S.C. 102(b) as being anticipate by U.S. Patent 4,679,189 to Olson et al.

Regarding claims 18 and 19, Olson discloses the step/item of providing at least one route table having an input index field and an operation code in Figure 17. The index field is the row number of the table corresponding to the destination map index and the operation code is the ALG field. It is clear from Figure 21 that the operation code (ALG) instructs the device to perform one of a plurality of algorithms. These algorithms contain actions other than forwarding. For example, consider Figure 23 – at element 29, a failure is returned. As indicated in lines 25-27 of column 18, this results in the discard of the packet which is an action other than forwarding. Olson discloses the step/item of assigning a selector serving as indexing datum to each data packet in the destination map index (see Figure 11 and step 2 of Figure 20). The token is simply the packet which contains both the packet and the selector. Olson discloses the step/item of matching the selector of a packet with the input index field in step 8 of Figure 20. Olson discloses the step of execution of the operation contained in the matched route table entry

Art Unit: 2666

in steps 16-19 of Figure 21 where the specific processing indicated by the operation code (ALG field) is executed.

Regarding claim 19/20, Olson discloses the limitation of the apparatus comprising at least one microprocessor is disclosed in the CPU 207 of Figure 2.

Regarding claim 18/24, Olson discloses the limitation of the operation code taking care of changing existing route table entries in element 40 of Figure 24. The route index is part of a current route table entry and is updated by this algorithm.

Regarding claim 18/25, the limitation that the operation code comprises a reference to an externally installed subroutine is disclosed in the ALG field of Figure 17. This value contains a reference (value of 0-3) to an algorithm to be run.

Regarding claim 18/26, Olson discloses the limitation of the operation code taking care of altering other modules in element 40 of Figure 24. The route index is part of another module and is updated by this algorithm.

Regarding claim 18/28, Olson discloses the limitation of the token being deleted if no match is found in Figure 20. If either the index equals 0 or the NRTS field equals 0 (indicating an invalid entry), a failure is returned. As explained in lines 39-41 of column 16, this results in the token (packet) being discarded.

Regarding claim 18/29, Olson discloses the limitation of a default processing routine which is used when no match is found in the return failure blocks in Figure 20; as specified in the accompanying description, these return failure blocks perform the default processing of packet discard.

Art Unit: 2666

Regarding claim **18/30**, Olson discloses the limitation that the route table is implemented as an array or set of records having the structure of regular or consecutive memory zones in Figure 17.

Regarding claim **18/32**, Olson discloses the limitation that at least one route table entry contains more than one operation in Figures 23-26 which show that each of the algorithms indicated by the respective ALG code value contain more than one operation.

Regarding claim **18/33**, Olson discloses the limitation that the selection of route table entries that match a given token is non-deterministic in Figure 20 which shows that the selection of a route table entry depends on the particular content of the packet.

Regarding claim **18/34**, the limitation of the indexing datum being embedded in the data packet is disclosed in figures 10 and 11.

***Allowable Subject Matter***

13. Claims **1, 16, 16/20, 1/22-26, 1/28-30 and 1/32-34** are allowed.

14. Claims **21** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 6,157,641 and 6,567,404 to Wilford disclose multi-protocol switching systems which are similar to elements of the present application.



Art Unit: 2666

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Monday and Thursday from 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*RCs 3-3-05*

Robert C. Scheibel  
Examiner  
Art Unit 2666

*Seema S. Rao*  
SEEMA S. RAO 3/4/05

SUPERVISORY PATENT EXAMINER  
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